

### **REMARKS/ARGUMENTS**

The claims have been amended as set forth above. With regard to any of the cancelled claims, applicants respectfully reserve the right to pursue the subject matter of those claims in any forthcoming continuation application(s). Reconsideration is respectfully requested.

#### **I. Examiner Interview dated August 19, 2009**

An interview was held on August 19, 2009. Applicants believe that an agreement was reached that the current changes push the application forward over the cited references. Applicants thank Examiner Pham for his time and consideration during the interview.

#### **II. Claim Objections**

In light of the changes to claim 25 indicated above, applicants assert that the claim objections have been overcome. Reconsideration is respectfully requested.

#### **III. Objections to the Specification**

In light of clarifying claim changes indicated above, applicants assert that the objections have been overcome. Reconsideration is respectfully requested.

#### **IV. Rejections under 35 U.S.C. 101**

In light of clarifying claim changes indicated above, applicants assert that the rejections have been overcome. Reconsideration is respectfully requested.

#### **V. Rejection under 35 U.S.C. 112**

Claims 11, 14, 18, 19 and 20 are rejected under 35 U.S.C. 112, first paragraph. The claims have been cancelled. Reconsideration is respectfully requested.

#### **VI. Rejection of the Claims**

Claims 1-3, 5, 8-10, 23-27 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,249,748 issued to Stephan (hereinafter "Stephan"). Claims 7,

11-14, 18-21 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephan in view of U.S. Patent No. 7,069,272 issued to Snyder (hereinafter "Snyder"). Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stephan in view of U.S. Patent No. 7,043,472 issued to Aridor et al. (hereinafter "Aridor"). Applicants respectfully disagree with the rejections.

Independent claim 1 includes the following combination of features that is not taught or otherwise suggested by the cited references:

obtaining keyword data corresponding to a set of data;

generating an inverted keyword index and a separate inverted keyword attribute index corresponding to the keyword data, the inverted keyword attribute index including information from at least one category within a group consisting of language information, sentence information, ranking information, document timestamp information, and metadata information;

storing the inverted keyword index and the inverted keyword attribute index in a shared process memory, **wherein storing the inverted keyword index includes causing an indexing component of a computer to dynamically adjust at least one memory pointer of the inverted keyword index to correspond to an address of a query processing component;**

obtaining a keyword query from a first process; and

**causing a query processing component of the computer to process** the keyword query **by accessing** the inverted keyword index and the inverted keyword attribute index stored in the shared process memory **via the at least one dynamically adjusted memory pointer of the inverted keyword index.**

As indicated in the background of the specification, in prior indexing approaches, an indexing component generates a keyword index and tracks keywords as they are found in a set of data. The query engine must then receive the index from the index generating component and subsequently process data queries. *See Background* at page 1, lines 17-20. This type of system has become deficient for a variety of reasons. Scaling issues occur by the passing of the keyword index data between the index generating component and the query engine. Such passing can also cause an increased burden on system memory and result in a delay of

availability of updated indexes for searching by the query engine. *See Background* at page 2, lines 1-9. The specification overcomes such problems by disclosing features so that the index generation component does not need to pass the inverted keyword index and the inverted keyword attribute index information to the query processing component. *See specification* at page 5, lines 26-28. As such, scaling issues are mitigated, system resources are preserved and delays are decreased for availability of updated indexes for searching by the query engine. Independent claim 1 recites “storing the inverted keyword index and the inverted keyword attribute index in a shared process memory, wherein storing the inverted keyword index includes causing an indexing component of a computer to ***dynamically adjust at least one memory pointer of the inverted keyword index to correspond to an address of a query processing component***,” in combination with “causing a query processing component of the computer to process the keyword query by accessing the inverted keyword index and the inverted keyword attribute index stored in the shared process memory ***via the at least one dynamically adjusted memory pointer of the inverted keyword index***.” As indicated in claim 1, the query processing component accesses the inverted keyword index and the inverted keyword attribute index in the shared process memory by the dynamically adjusted memory pointers of the inverted keyword index. Stated another way the indexing component does not pass the index to the query component. Such features are not taught or otherwise suggested by the cited references. The references are completely silent on such features. Accordingly, applicants respectfully request reconsideration and allowance of independent claim 1.

Independent claim 23 includes the following combination of features that is not taught or otherwise suggested by the cited references:

an index generation component for obtaining a set of data and generating an inverted keyword index and a separate inverted keyword attribute index, the inverted keyword attribute index including information from at least one category within a group consisting of language information, sentence information, ranking information, document timestamp information, and metadata information;

a shared memory buffer for storing the inverted keyword index and the inverted keyword attribute index of a set of data, **wherein storing the inverted keyword index includes causing an index generation component to dynamically adjust at**

**least one memory pointer of the inverted keyword index to correspond to an address of a query processing component;** and

a query processing component for processing keyword queries issued by the one or more processes **by accessing the inverted keyword index and the inverted keyword attribute index stored in the shared memory buffer via the at least one dynamically adjusted memory pointer of the inverted keyword index.**

As indicated in the background of the specification, in prior indexing approaches, an indexing component generates a keyword index and tracks keywords as they are found in a set of data. The query engine must then receive the index from the index generating component and subsequently process data queries. *See Background* at page 1, lines 17-20. This type of system has become deficient for a variety of reasons. Scaling issues occur by the passing of the keyword index data between the index generating component and the query engine. Such passing can also cause an increased burden on system memory and result in a delay of availability of updated indexes for searching by the query engine. *See Background* at page 2, lines 1-9. The specification overcomes such problems by disclosing features so that the index generation component does not need to pass the inverted keyword index and the inverted keyword attribute index information to the query processing component. *See specification* at page 5, lines 26-28. As such, scaling issues are mitigated, system resources are preserved and delays are decreased for availability of updated indexes for searching by the query engine. Independent claim 23 recites “a shared memory buffer for storing the inverted keyword index and the inverted keyword attribute index of a set of data, ***wherein storing the inverted keyword index includes causing an index generation component to dynamically adjust at least one memory pointer of the inverted keyword index to correspond to an address of a query processing component,***” in combination with “a query processing component for processing keyword queries issued by the one or more processes ***by accessing the inverted keyword index and the inverted keyword attribute index stored in the shared memory buffer via the at least one dynamically adjusted memory pointer of the inverted keyword index.***” As indicated, in claim 23, the query processing component accesses the inverted keyword index and the inverted keyword attribute index in the shared process memory by the dynamically adjusted memory

pointers of the inverted keyword index. Stated another way the indexing component does not pass the index to the query component. Such features are not taught or otherwise suggested by the cited references. The references are completely silent on such features. Accordingly, applicants respectfully request reconsideration and allowance of independent claim 23.

With regard to the dependent claims, the dependent claims include features that are not taught or suggested by the cited references. Moreover, those claims ultimately depend from the independent claims set forth above. As such, they should be found allowable for at least those same reasons.

**VII. Request for Reconsideration**

In view of the foregoing amendments and remarks, all pending claims are believed to be allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the applicants at the telephone number provided below.

Respectfully submitted,

MERCHANT & GOULD P.C.



RYAN T. GRACE

Registration No. 52,956

Direct Dial: 402.344.3000

MERCHANT & GOULD P.C.  
P. O. Box 2903  
Minneapolis, Minnesota 55402-0903  
612.332.5300

